PELCO®

DX8100-EXP

Expansion Unit

Installation Manual

DX8100 Digital Video Recorder

C2636M (11/06)

Introduction

Welcome to the DX8100-EXP Expansion Unit upgrade for the DX8100 Series digital video recorder (DVR). This document serves as a guide for installing the DX8100-EXP Expansion Unit.

If you ordered the DX8124 or DX8132 model DVR, the optional Capture Card and DX8100 I/O card are already installed. Use the Expansion cable to connect the Expansion Unit to the DX8100. For information about connecting the DX8100 Expansion Unit to the DX8100 DVR, refer to *Connecting the Expansion Unit to the DX8100* on page 15.

This document is organized into the following sections:

- *Introduction* on this page
- *Getting Ready* on page 6
- *Prepare DX8100 for Expansion Unit Installation* on page 8
- *Install the DX8100 I/O Card* on page 10
- *Installing the Capture Card* on page 12
- *Reassemble the Unit* on page 14
- *Connecting the Expansion Unit to the DX8100* on page 15

The following figures show the front and back of the Expansion Unit.

Figure 1. DX8100-EXP Expansion Unit (Front)

Figure 2. DX8100-EXP Expansion Unit (Back)

Table A describes the additional capacity that the DX8100-EXP Expansion Unit upgrade adds to the base model DX8100.

Table A. DX8100 Expansion Unit Upgrade Features

Feature	DX8108 Configuration		DX8116 Configuration	
	Base Unit	With Expansion Unit	Base Unit	With Expansion Unit
Camera inputs	8	24	16	32
Alarm inputs	8	24	16	32
ATM/POS	8	24	16	32
Relay outputs	8	16	16	24

PARTS LIST

In addition to this document, Table B lists the components that are included in the DX8100-EXP Expansion Unit kit.

Table B. DX8100 Expansion Unit Kit Items

Qty	Description	Purpose
1	DX8100-EXP Expansion Unit	Provides connectivity for additional cameras, alarms, and relays
1	Expansion cable	Interconnects the DX8100 and Expansion Unit
1	Capture Card (16-channel)	Adds 16 video channels, provides connection for an optional 8- or 16-channel Audio card
1	Interconnect flat ribbon cable (14-pin)	Interconnects the main Capture and secondary Capture cards
1	DX8100 I/O card	Provides external interface between the Expansion Unit and DX8100
1	Capture Card cable (5-pin)	Alarm and relay cable that interconnects the DX8100 I/O card and Capture Card
1	Video input flat ribbon cable (32-pin)	Routes video input from DX8100 I/O Card to the Capture Card
1	Expansion Unit rack mount kit	Includes two brackets and hardware to mount the Expansion Unit in a rack

TOOLS NEEDED

Table C. DX8100 Expansion Unit Kit Items

Qty	Description
1	Phillips screwdriver #1 (nonmagnetic)
1	Properly grounded ESD wrist strap and mat
4	Small containers for storing screws (optional)

OTHER DX8100 OPTIONAL ACCESSORIES

The DX8108 base unit comes with an 8-channel Capture Card and the DX8116 base unit includes a 16-channel Capture Card. When considering adding the audio option:

- The DX8108-AUD audio card can be installed on a 16-channel Capture Card. In this case, only audio inputs 1 to 8 are available for recording. Audio channels 9 to 16 can be configured but audio data is not recorded.
- The DX8116-AUD audio card cannot be installed on an 8-channel Capture Card.

The table below describes other DX8100 optional accessories that can be installed along with the Expansion Unit. For a list of the current DX8100 options, refer to the DX8100 Product Specification sheet. Refer to the documentation supplied with the optional accessories for instructions on how to install those accessories.

Table D. DX8100 Optional Accessories

Option Number	Description
DX8108-AUD	DX8100 8-channel audio input card
DX8116-AUD	DX8100 16-channel audio input card
DX8100-512RAM	DX8100 memory upgrade from 512 MB to 1 GB
KBD300A	KBD300A universal keyboard (requires KBDKIT)
KBDKIT (-X)	Remote keyboard wiring kit (X = 220 VAC)
VSI-PRO	AVE video serial interfaces for ATM/POS*

*The VSI-PRO and required cabling is available from AVE.

Getting Ready

Before you install the DX8100-EXP Expansion Unit, familiarize yourself with the instructions throughout this manual. The Expansion Unit is ready to use after you complete the installation steps in this manual.

The steps to install the Expansion Unit are summarized as follows:

1. Unpack the DX8100-EXP Expansion Unit kit and check that you have all the necessary Expansion Unit kit components. For information about components supplied in the DX8100-EXP Expansion Unit kit, refer to *Parts List* on page 4.
2. Verify that you have the required tools to install the Expansion Unit. For information about the tools required to install the Expansion Unit, refer to *Tools Needed* on page 5.
3. Shut down the DX8100 Series DVR. For information about shutting down the DX8100, refer to the DX8100 Installation Manual, Operation/Programming manual, or DX8100 server online Help.
4. Unplug the power cord from the wall socket.

⚠ **WARNING:** It is critical that the unit be unplugged for your safety. You must remove the power cord because current continues to flow through the DX8100 even when the unit is off. Remove the power cord from the wall socket first and then from the rear of the DVR.

Figure 3. Removing Power Cord from Wall

5. Remove the power cord from the back of the DX8100.

Figure 4. Removing Power Cord from DX8100

6. Ensure that the DX8100 Series DVR and all of its components are protected against electrostatic discharge (ESD). Before handling any electronic components, you should take steps to ground yourself properly so that any built-up static electric charges are dissipated away from the unit. The most effective method for combating ESD is to use a properly grounded wrist strap.

NOTE: If you do not have access to a grounded wrist strap, you can discharge any built-up static by periodically touching an unpainted section of the chassis.

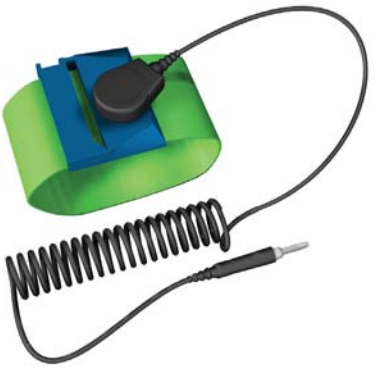

Figure 5. ESD Protection

7. Install the Expansion Unit PC cards and cabling.
8. Connect the Expansion Unit to the DX8100.
9. Start the DX8100 and verify that you have access to the additional features/functions that are supported by the Expansion Unit.

Prepare DX8100 for Expansion Unit Installation

This section describes how to access the DX8100 interior. For information about mounting the DX8100 in a rack, refer to the DX8100 Installation Manual.

OPEN THE DX8100 CHASSIS

If the DX8100 is mounted in a rack, it must be removed. Two people might be required to lift and remove the DX8100.

To move the DX8100 to an area that will provide full access to the unit chassis:

⚠ **WARNING:** Make sure unit is turned off and you are wearing a properly grounded ESD wrist strap before attempting to open the DX8100 chassis cover. For information about shutting down the unit, refer to *Getting Ready* on page 6.

1. Disconnect any cables or connections that may restrict access or interfere with the removal of the unit.
2. (If applicable) Unscrew the fasteners that are securing the unit in the rack and carefully lift the unit out of the rack.
3. Place the DX8100 on a flat surface with ample workspace.

⚠ **WARNING:** The chassis assembly includes parts with sharp edges. To avoid injury, use caution when working in and around the DX8100's chassis and components.

4. Using a Phillips screwdriver, remove the chassis cover:
   a. Remove the top two screws on the left and right side panels of the DX8100. Refer to Figure 5.
   b. Remove the four silver screws (at top of the unit) fastening the cover to the back of the unit. Refer to Figure 6.
   c. Carefully remove the chassis cover by sliding it back and up. Set aside the cover.

Figure 6. Removing Chassis Cover

COMPONENT LAYOUT

Figure 7 shows the slots and the DX8100 Series DVR's major components. Some detail is removed from the illustrations in this manual for the purpose of clarity. (Slots on the motherboard are labeled differently.)

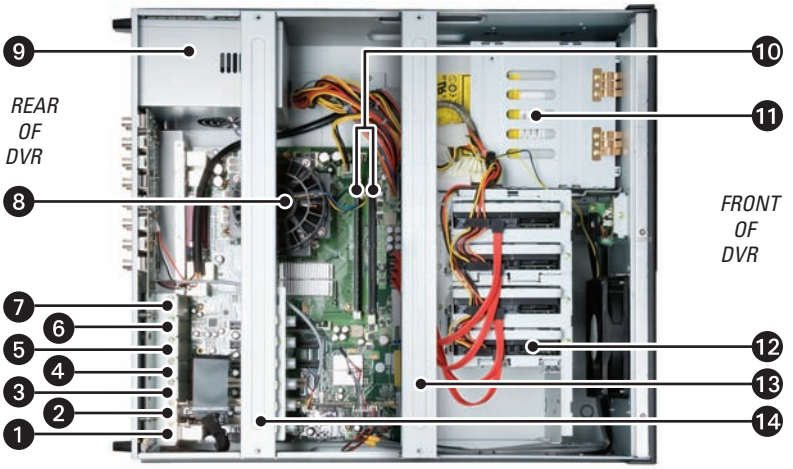

Figure 7. DX8100 Interior

Table E describes the DX8100's slot assignments and major components.

Table E. DX8100 Slot Assignments and Major Components

Item	Description	Item	Description
1	Slot 1: PTZ card installed in PCI connector	8	CPU
2	Slot 2: Capture Card installed in PCI connector	9	Power supply
3	Slot 3: PCI connector	10	DIMM sockets (RAM)
4	Slot 4: x1 PCI Express connectors	11	DVD-RW
5	Slot 5: x1 PCI Express connectors	12	Hard drive bay
6	Slot 6: x16 PCI Express connector	13	Front cross-brace
7	Slot 7: Optional Expansion Unit I/O card	14	Rear cross-brace

Install the DX8100 I/O Card

The DX8100 I/O card comes in a separate box that contains the DX8100 I/O card and two cables: a 5-pin alarm and relay cable and a 32-pin video input ribbon cable. For information about the other DX8100 Expansion Unit kit components, refer to *Parts List* on page 4.

The I/O card is installed in slot 7 and does not insert into a slot on the motherboard. The DX8100 I/O card receives power from the DX8100 and provides power for the DX8100 Expansion Unit.

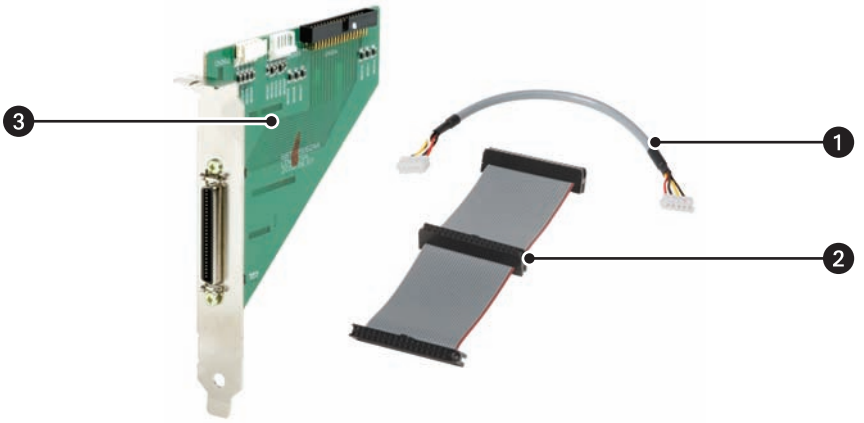

Figure 8. DX8100 I/O Card and Cables

Table F describes the items included with the DX8100 I/O card.

Table F. DX8100 I/O Card and Accessories

Item	Description
1	TV/Audio cable
2	Video ribbon cable (32-pin)
3	DX8100 I/O card

To install the DX8100 I/O card in slot 7:

1. Remove the Rear Cross Brace. Refer to item 14 in Figure 7 on page 9.
2. Do the following:
   a. Remove the slot cover for slot 7 and retain the screw.
   b. Insert the DX8100 I/O card into the slot 7 opening and secure the I/O card bracket with the screw.
   c. Insert the 4-wire DX8100 power plug into the I/O card power connector CN302.
   d. Insert the 5-pin Alarm and Relay cable into the DX8100 I/O card Alarm and Relay connector CN303. The other end of the cable inserts into the optional Capture Card. For information about installing the optional Capture Card, refer to *Installing the Capture Card* on page 12.
   e. Insert the 32-pin ribbon cable into the video connector CN304.
3. This completes installation of the DX8100 I/O card. Continue to *Installing the Capture Card* on page 12.

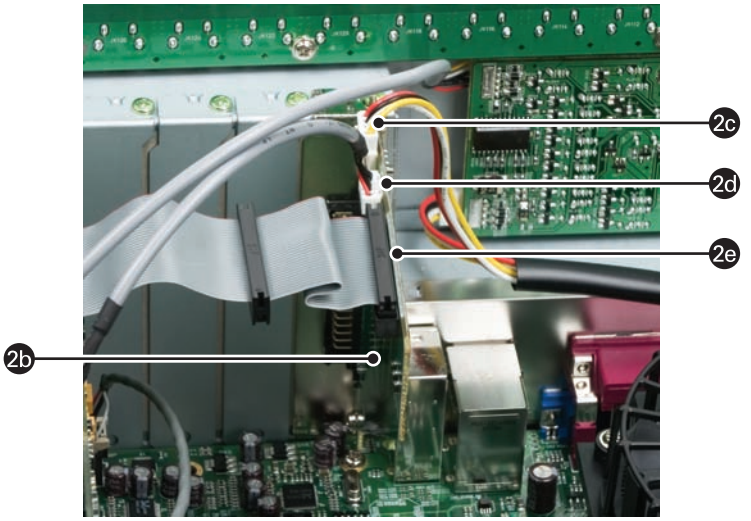

Figure 9. Installing the DX8100 I/O Card

Installing the Capture Card

This section describes how to install the DX8100 Capture Card. The Capture Card installation is performed after you have installed the DX8100 I/O card. The DX8100 Capture Card comes in a separate box that contains the Capture Card and one 14-pin interconnect cable. For information about the other DX8100 Expansion Unit kit components, refer to *Parts List* on page 4.

The optional Capture Card is installed in PCI slot 3, and supports the additional 16 BNC video inputs, 16 terminal block alarm inputs, and 8 terminal block relay outputs provided by the Expansion Unit.

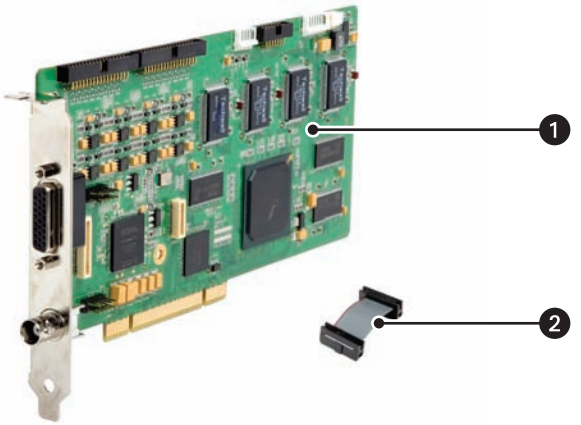

Figure 10. DX8100 Capture Card and Cable

Table G describes the items included with the DX8100 Capture Card.

Table G. DX8100 Optional Capture Card and Accessories

Item	Description
1	Optional Capture Card (identical to the main Capture Card)
2	14-pin ribbon cable

To install the optional Capture Card:

1. On the main Capture Card, remove the 7-wire TV/Audio cable and lay the cable over the DX8100 I/O card. Refer to callout 2c in Figure 11 for the location of the TV/Audio cable.

2. Do the following:

   a. Remove the slot cover for slot 3 and retain the screw.

   b. Place the optional Capture Card under the 5-wire Alarm and Relay cable from the main Alarm and Relay I/O board and firmly seat the card in the PCI slot 3 connector, and then secure the Capture Card bracket with the screw.

   c. Connect the 7-wire TV/Audio cable to the TV/Audio connector on the optional and main Capture Card.

   d. Verify that the 5-wire Alarm and Relay cable from the main Alarm and Relay I/O board is firmly inserted in the I/O connector on the main Capture Card.

   e. Connect the 5-wire Alarm and Relay cable from the DX8100 I/O card to the I/O connector on the optional Capture Card.

   f. Connect the 32-pin ribbon cable from the DX8100 I/O card to the second video connector on the optional Capture Card.

   g. Insert the 14-pin ribbon cable into the PB-Path connectors on the optional, and then main Capture Card.

   h. This completes installation of the Capture Card. Continue to *Reassemble the Unit* on page 14.

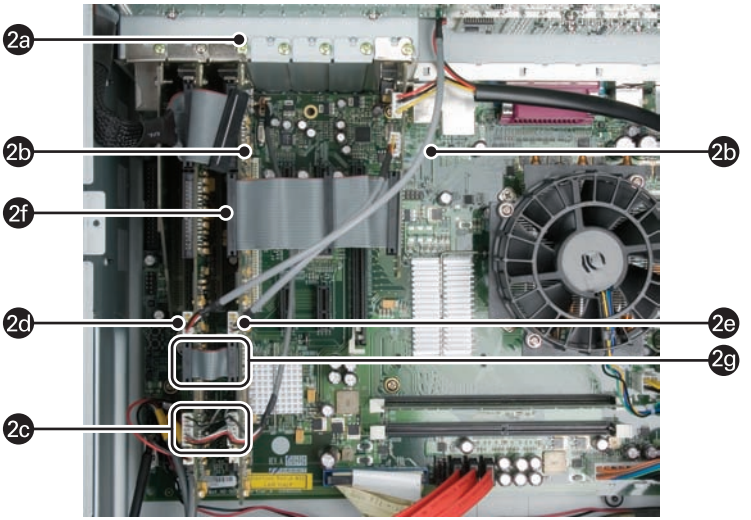

Figure 11. Installing the Optional Capture Card

Reassemble the Unit

To reassemble the DX8100:

1. Replace the chassis cover using the same screws you removed from the side and rear of the unit. Refer to Figure 12.

Figure 12. Replacing Chassis Cover

2. Attach the silver part label that came in your upgrade kit to the inside of your DVR's front door.
   a. Remove the paper backing from the part label.
   b. Carefully place the label, adhesive-side down, on a free section of the inside of the door.
   c. Press down firmly to ensure that the label properly adheres to the inside of the door.

NOTE: In the event that your unit or its components require service, part labels must be present and appropriately affixed to the unit's door. Pelco product support personnel use these labels to identify the exact components installed in your system. A separate part label is required for each upgrade component installed on the DX8100.

Figure 13. Example: Product Label

3. Reinstall the unit in a rack enclosure if necessary, and reconnect all of the cables and peripheral equipment you removed earlier.

Connecting the Expansion Unit to the DX8100

This sections describes how to connect the Expansion Unit to the DX8100. The Expansion Unit can be rack mounted, positioned to the side, or set on top of the DX8100. Figure 14 shows how to assemble the rack mount kit.

Figure 14. Assembling Expansion Unit Rack Mount Kit

Table H describes the items included in the Expansion Unit rack mounting kit.

Table H. Expansion Unit Rack Mounting Kit

Item	Qty	Description
1	2	Rack ears
2	8	6-32 x 0.375-inch Phillips screw
3	4	Rack screw washers
4	4	10-32 x 0.750-inch Phillips screw

To install the Expansion Unit in an equipment rack:

1. Attach the rack ears to the Expansion Unit using the eight 6-32 x 0.375-inch Phillips screws. Refer to Figure 14.
2. Using the remaining four 10-32 x 0.750-inch Phillips screws and rack screw washers, install the Expansion Unit in the rack, above the DX8100.

To connect the Expansion Unit to the DX8100 DVR:

1. Do one of the following:
   - **Rack mounting:** Attach the rack mount kit and install the Expansion Unit in the rack enclosure directly above the DX8100.
   - **Desktop mounting:** Set the Expansion to the side or on top of the DX8100.
2. Connect the 68-pin Expansion cable end (partially shown in Figure 15) to the Expansion Unit connector, and then connect the 50-pin Expansion cable end to DX8100 I/O card.
3. Plug the power cord back into the DX8100 and then into the wall.

Figure 15. Interfacing the Expansion Unit and DX8100

4. Power on the DX8100.

Figure 16. Restarting the Unit

5. Log in to the DX8100 and verify that the additional devices are displayed in the DX8100 site tree. For information about the additional features provided by the Expansion Unit, refer to Table A on page 4.

6. This completes the Expansion Unit installation process.

The DX8100 DVR does not have to be powered down to connect devices to the Expansion Unit.

To connect devices to the Expansion Unit:

1. Power down the Expansion Unit by disconnecting the 68-pin Expansion cable end at the Expansion Unit. The Expansion Unit is powered down.

2. Connect the additional devices to the Expansion Unit.

3. Reconnect the 68-pin Expansion cable end to the Expansion Unit. The Expansion Unit is powered up.

4. Configure the DX8100 to work with the new devices attached to the Expansion Unit.

PRODUCT WARRANTY AND RETURN INFORMATION

WARRANTY

Pelco will repair or replace, without charge, any merchandise proved defective in material or workmanship **for a period of one year** after the date of shipment.

Exceptions to this warranty are as noted below:

- Five years on FR/FT/FS Series fiber optic products and TW3000 Series unshielded twisted pair transmission products.
- Three years on Spectra® IV products.
- Three years on Genex® Series products (multiplexers, server, and keyboard).
- Three years on Camclosure® and fixed camera models, except the CC3701H-2, CC3701H-2X, CC3751H-2, CC3651H-2X, MC3651H-2, and MC3651H-2X camera models, which have a five-year warranty.
- Three years on PMCL200/300/400 Series LCD monitors.
- Two years on standard motorized or fixed focal length lenses.
- Two years on Legacy®, CM6700/CM6800/CM9700 Series matrix, and DF5/DF8 Series fixed dome products.
- Two years on Spectra III™, Esprit®, ExSite™, and PS20 scanners, including when used in continuous motion applications.
- Two years on Esprit and WW5700 Series window wiper (excluding wiper blades).
- Two years (except lamp and color wheel) on Digital Light Processing (DLP®) displays. The lamp and color wheel will be covered for a period of 90 days. The air filter is not covered under warranty.
- Eighteen months on DX Series digital video recorders, NVR300 Series network video recorders, and Endura™ Series distributed network-based video products.
- One year (except video heads) on video cassette recorders (VCRs). Video heads will be covered for a period of six months.
- Six months on all pan and tilts, scanners or preset lenses used in continuous motion applications (that is, preset scan, tour and auto scan modes).

Pelco will warrant all replacement parts and repairs for 90 days from the date of Pelco shipment. All goods requiring warranty repair shall be sent freight prepaid to Pelco, Clovis, California. Repairs made necessary by reason of misuse, alteration, normal wear, or accident are not covered under this warranty.

Pelco assumes no risk and shall be subject to no liability for damages or loss resulting from the specific use or application made of the Products. Pelco's liability for any claim, whether based on breach of contract, negligence, infringement of any rights of any party or product liability, relating to the Products shall not exceed the price paid by the Dealer to Pelco for such Products. In no event will Pelco be liable for any special, incidental or consequential damages (including loss of use, loss of profit and claims of third parties) however caused, whether by the negligence of Pelco or otherwise.

The above warranty provides the Dealer with specific legal rights. The Dealer may also have additional rights, which are subject to variation from state to state.

If a warranty repair is required, the Dealer must contact Pelco at (800) 289-9100 or (559) 292-1981 to obtain a Repair Authorization number (RA), and provide the following information:

1. Model and serial number
2. Date of shipment, P.O. number, Sales Order number, or Pelco invoice number
3. Details of the defect or problem

If there is a dispute regarding the warranty of a product which does not fall under the warranty conditions stated above, please include a written explanation with the product when returned.

Method of return shipment shall be the same or equal to the method by which the item was received by Pelco.

RETURNS

In order to expedite parts returned to the factory for repair or credit, please call the factory at (800) 289-9100 or (559) 292-1981 to obtain an authorization number (CA number if returned for credit, and RA number if returned for repair).

All merchandise returned for credit may be subject to a 20% restocking and refurbishing charge.

Goods returned for repair or credit should be clearly identified with the assigned CA or RA number and freight should be prepaid. Ship to the appropriate address below.

If you are located within the continental U.S., Alaska, Hawaii or Puerto Rico, send goods to:

Service Department
Pelco
3500 Pelco Way
Clovis, CA 93612-5699

If you are located outside the continental U.S., Alaska, Hawaii or Puerto Rico and are instructed to return goods to the USA, you may do one of the following:

If the goods are to be sent by a COURIER SERVICE, send the goods to:

Pelco
3500 Pelco Way
Clovis, CA 93612-5699 USA

If the goods are to be sent by a FREIGHT FORWARDER, send the goods to:

Pelco c/o Expeditors
473 Eccles Avenue
South San Francisco, CA 94080 USA
Phone: 650-737-1700
Fax: 650-737-0933

11-1-06

Green The materials used in the manufacture of this document and its components are compliant to the requirements of Directive 2002/95/EC.

This equipment contains electrical or electronic components that must be recycled properly to comply with Directive 2002/96/EC of the European Union regarding the disposal of waste electrical and electronic equipment (WEEE). Contact your local dealer for procedures for recycling this equipment.

REVISION HISTORY

Manual #	Date	Comments
C2636M	11/06	Original version.

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